

Remarks

The status of the claims is as follows. Claims 1-39 were originally filed and were subject to restriction. Claims 22-39 were canceled in a previous amendment. Claims 40-57 were added in a previous amendment. Claims 17-21 and 40-57 were withdrawn from consideration in the present Office Action and have been canceled herein without prejudice to Applicant's filing of divisional applications to the separately patentable subject matter thereof. Claims 1, 6, 8 and 16 have been amended herein and Claims 58-81 have been added herein.

Restriction Requirement

In response to the Restriction Requirement, Claims 22-39 previously were canceled without prejudice to Applicant's filing of divisional applications to the separately patentable subject matter thereof, and new Claims 40-57 were added with Applicant's proposal to include Claims 1-16 and 40-57 in Group I. In response to the original restriction requirement, Applicant elected the invention of Group I.

In the present Office Action, Claims 40-57 were withdrawn from consideration because, alleges the Office Action, they are considered to be method claims under Group III of the Restriction Requirement. The Office Action also asserted that a method claim cannot depend from an apparatus claim.

The Office Action has determined, therefore, that Claims 40-57 are separately patentable over the apparatus claims of Group I. This is so because, in making the original Restriction Requirement, the Examiner determined that the inventions of Groups I-IV are distinct each from the other. According to M.P.E.P. 802.01 the term "distinct" means that two or more subjects as disclosed are related, for example, as combination and part (subcombination) thereof, process and apparatus for its practice, process and product made, etc., but are capable of separate manufacture, use, or sale as claimed, AND ARE PATENTABLE (novel and unobvious) OVER EACH OTHER (emphasis in original). Accordingly, the Examiner is acknowledging at least implicitly that the inventions of the various groups are separately patentable over one other. If this were not the case, then the restriction requirement would not be proper. Applicant also respectfully requests clarification of the statement that a method claim cannot depend from an apparatus claim.

The Amendment

Claim 1 was amended to recite that the outlet element, the holding chamber and the supports are disposed such that gas flow through the holding chamber is substantially unidirectional and substantially parallel to the supports. Support therefor is in the Specification, for example, page 6, lines 12-15.

Claim 6 was amended to recite that the outlet element, the holding chamber and the supports are disposed such that gas flow through the holding chamber is substantially unidirectional and substantially parallel to the supports. Support therefor is in the Specification, for example, page 6, lines 12-15.

Claim 8 was amended to recite that the manifold is adapted for introduction of gas at a pressure of about 60 to about 80 psi. Support therefor is in the Specification, for example, original Claim 8.

Claim 16 was amended to change its dependency to Claim 6.

Claims 58-61 were added. Claim 58 finds support in the Specification, for example, original Claims 1 and 2. Claims 59-61 are based on original Claims 3-5.

Claims 62-71 were added. Claim 62 finds support in the Specification, for example, original Claims 6 and 7. Claims 63-71 are based on original Claims 8-16.

Claims 72-81 were added. Claim 72 is supported in the Specification, for example, original Claims 6 and 11. Claims 73-81 are based on original Claims 7 and 9-16.

Objection to Claims

Claim 8 was objected to under 37 C.F.R. 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant believes that the above amendment to Claim 8 obviates this ground of rejection.

Double Patenting

Applicant was advised in the Office Action that, should Claim 5 be found allowable, Claim 16 would be objected to under 37 C.F.R. 1.75(c) as being a substantial duplicate thereof. Applicant submits that the above amendment to Claim 16 obviates this potential duplication of claims.

Rejection under 35 U.S.C. §102

Claims 1, 3-6, 8, 15 and 16 were rejected under 35 U.S.C. 102(b) as being anticipated by Takagi (U.S. Patent No. 6,248,672).

Takagi discloses a method for producing a semiconductor device using a dual tube reactor. Inert gas is fed into the vertical reaction-tube and a reaction gas is introduced into the vertical reaction-tube. The inert gas is exhausted through the annular channel formed between the inner tube and the outer tube at a bottom portion of the vertical reaction-tube. A wafer is heat treated in the vertical reaction-tube by means of a heating furnace. In order to decrease the number and size of the particles, the wafer is displaced upward and then positioned at a level substantially the same as or above the top end of the inner tube, and the reaction gas is introduced into the vertical reaction-tube at or above the position of the wafer. Furthermore, inert gas is caused to flow from a bottom portion of the inner tube toward the wafer positioned as above. As a result, inflow of the reaction gas into the inner tube is impeded and the generation of particles there can be lessened.

In order to maintain a rejection under 35 U.S.C. §102(b), a *prima facie* case of anticipation must be established first. An invention is anticipated if each and every limitation of the claimed invention is disclosed in a single prior art reference. *In re Paulsen*, 30 F.3d 1475, 1478, 31 U.S.P.Q.2d 1671, 1673 (Fed. Cir. 1994).

In the present situation Takagi does not disclose each and every element of the claimed invention. Takagi fails to disclose or suggest that the outlet element, the holding chamber and the supports are disposed such that gas flow through the holding chamber is substantially unidirectional and substantially parallel to the supports. In the embodiment of Fig. 1 of Takagi, wafer 8 is disposed perpendicular to the direction of flow of reaction gas 2 and reaction gas 2 does not flow parallel to the wafer as a result of the design of this embodiment of Takagi. The fact that gas does not flow parallel to wafer 8 is emphasized in column 9, lines 14-17, where Takagi states that the wafer 8 is placed on the separator 21, which is in the form of a round disc. Since the entire under side of wafer 8, continues the patentee, is supported by the separator 21, no reaction occurs on the under side.

In the embodiment of Fig. 11 of Takagi, as a result of the design of his

apparatus, the flow of reaction gas 1e is not unidirectional through the holding chamber. Reaction gas 1e impinges on a wall of the reaction tube and changes direction to exit the reaction tube through exhausting conduit 35.

In the embodiment of Fig. 13 of Takagi, reaction gas 37 does not flow through the reaction tube in a substantially unidirectional manner and substantially parallel to the wafers 8 because of the design of Takagi's apparatus. As discussed above, separator 21 does not allow gas to flow through. Thus, reaction gas 37 does not flow through separator 21 and must change direction in order to exit the reaction tube because of the design of this embodiment of Takagi.

As indicated in the present Specification, embodiments of the present invention are designed to provide a storage chamber in which the internal environmental conditions within the storage chamber are controlled to prevent contamination of the surfaces of supports and destruction of chemical compounds on the surfaces of the supports.

Rejection under 35 U.S.C. §103

Claims 9 and 10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi. Applicant submits that Claims 9 and 10 are patentable over Takagi because of their dependency from Claim 6, which is patentable over Takagi as explained above. Takagi is concerned with reaction chambers and not storage chambers. Takagi utilizes reaction gases to carry out chemical reactions on the surface of wafers. There is no concern in Takagi for storage of supports with biopolymers on their surfaces. Takagi's focus is to carry out reactions on the surface of his wafers. There is no teaching in Takagi relating to protecting compounds on the surface of supports during storage to avoid contamination and destruction of compounds on such surfaces. Thus, one skilled in the art would not look to Takagi for information as to how to construct an apparatus that would achieve storage of supports comprising chemical compounds such as, for example, biopolymers, where the goal is to avoid chemical reaction on the surface during such storage.

Allowable Subject Matter

Claims 2, 7 and 11-14 were objected to as being dependent upon a rejected base claim. The Office Action indicated that the claims would be allowable if rewritten in independent form. Applicant submits that the above amendments provide Claims 2, 7 and 11 in independent form as Claims 58, 62 and 72. Accordingly, Claims 58, 62 and 72 and claims dependent thereon are allowable over the art of record.

Conclusion

The Claims have been amended to obviate the objections set forth in the Office Action and Claims 1-16 and 58-81 satisfy the requirements of 35 U.S.C. 102 and 103. Allowance of the above-identified patent application, it is submitted, is in order.

Respectfully submitted,



Theodore J. Leitereg
Attorney for Applicant
Reg. No. 28,319

Agilent Technologies, Inc.
Legal Department, M/S DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599